

THAT WHICH IS CLAIMED IS:

1. A robust communication system (1) for transmissions through a noisy environment, characterized in that it comprises a cascade of a discrete signal source (2), a chaotic modulator (3) for the signal, a noisy transmission channel (4), and an incoherent discriminator or receiver (5).

2. A system according to Claim 1, characterized in that said incoherent discriminator (5) comprises a high-pass filter (6) effective to remove the lowest frequency harmonics of the received signal, a rectifier (7) supplying the absolute value of the wave, and a low-pass filter (8) providing a mean of the rectified wave.

3. A system according to Claim 2, characterized in that said discriminator (5) further comprises a comparator (9) placed downstream of the low-pass filter.

4. A system according to Claim 1, characterized in that a low logic value, generated by said discrete signal source (2), is associated a chaotic evolution corresponding to a complete Chua's attractor.

5. A system according to Claim 1, characterized in that said incoherent discriminator (5) comprises a low-pass filter (11) having its output connected to a null-threshold comparator (12), and a divider (13) connected after the comparator to scale the square-wave output signal.

6. A system according to Claim 2,
characterized in that it is self-synchronizing.

7. A system according to Claim 5,
characterized in that a low logic value, generated by
said discrete signal source (2), is associated a
chaotic dynamics corresponding to the left-hand lobe
5 only of a Chua's attractor.

8. A system according to Claim 5,
characterized in that said low-pass filter (11) is a
fourth order filter.

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